

translation

PATENT COOPERATION TREATY

PCT/EP2003/007009



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PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 2002P09325WO	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/EP2003/007009	International filing date (day/month/year) 01 July 2003 (01.07.2003)	Priority date (day/month/year) 03 July 2002 (03.07.2002)
International Patent Classification (IPC) or national classification and IPC H04Q 7/38		
Applicant SIEMENS AKTIENGESELLSCHAFT		

1.	This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2.	This REPORT consists of a total of <u>5</u> sheets, including this cover sheet.
<input checked="" type="checkbox"/>	This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).
	These annexes consist of a total of <u>3</u> sheets.
3.	This report contains indications relating to the following items:
I	<input checked="" type="checkbox"/> Basis of the report
II	<input type="checkbox"/> Priority
III	<input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
IV	<input type="checkbox"/> Lack of unity of invention
V	<input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
VI	<input type="checkbox"/> Certain documents cited
VII	<input type="checkbox"/> Certain defects in the international application
VIII	<input type="checkbox"/> Certain observations on the international application

Date of submission of the demand 22 December 2003 (22.12.2003)	Date of completion of this report 15 September 2004 (15.09.2004)
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/EP2003/007009

I. Basis of the report

1. With regard to the elements of the international application:*

- ☐ the international application as originally filed
- ☒ the description:
pages _____ 1-13 _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____
- ☒ the claims:
pages _____, as originally filed
pages _____, as amended (together with any statement under Article 19
pages _____, filed with the demand
pages _____ 1-13 _____, filed with the letter of _____ 17 May 2004 (17.05.2004)
- ☒ the drawings:
pages _____ 1/1 _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____
- ☐ the sequence listing part of the description:
pages _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language _____ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/fig _____

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International Application No.
PCT/EP 03/07009

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims		YES
	Claims	1-13	NO
Inventive step (IS)	Claims		YES
	Claims	1-13	NO
Industrial applicability (IA)	Claims	1-13	YES
	Claims		NO

2. Citations and explanations

Documents cited

The present report makes reference to the following documents (D):

- D1: WO 00 35226 1 (NOKIA NETWORKS OY; LONGONI FABIO (FI)) 15 June 2000 (200-06-15)
- D2: EP-A-1 081 979 (ERICSSON TELEFON AB L M) 7 March 2001 (2001-03-07)
- D3: WO 01 76304 A (ERICSSON TELEFON AB L M) 11 October 2001 (2001-10-11).

- Document D1 (see in particular page 8, lines 12 to 15; page 9, lines 22 to 28; page 10, lines 29 to 33; page 12, lines 10 to 17 and page 12, line 28, to page 13, line 2) discloses, in conformity with **all** the features of **claim 1**, a method for controlling a transmission of data in a radio communications system having a hierarchical network architecture (see page 9, lines 22 to 28) wherein a lower-hierarchy device of the hierarchical network architecture administers physical resources for a data transmission to terminal devices (see page 10,

lines 29 to 33) and wherein the lower-hierarchy device transmits information about a current load situation of the physical resources to a higher-hierarchy device of the hierarchical network architecture for the purpose of controlling a load distribution (see page 8, lines 12 to 15; page 12, lines 10 to 17, and page 12, line 28, to page 13, line 2).

The subject matter of **claim 1** is therefore **not novel** (PCT Article 33(2)).

In addition, document D3 (see in particular the abstract, page 2, lines 7 to 24; page 6, lines 14 to 25; page 11, line 17, to page 12, line 13; **page 15, line 23, to page 16, line 24**; page 18, line 24, to page 19, line 19; page 20, line 13, to page 21, line 8, and page 22, lines 8 to 10) discloses a similar method having all the features of claim 1.

Furthermore, even if the objection with regard to lack of novelty owing to non-essential differences between the features of claim 1 and those of the method described in document D1 were to be queried, the subject matter of claim 1 would still **not involve an inventive step** (PCT Article 33(3)) relative to the disclosure in document D1 and the general knowledge of a person skilled in the field of radio communications systems (see also the methods disclosed in documents D2 and D3).

2. The observations made on claim 1 in item 1. above also apply to independent **claim 12**, because claim 12 concerns a radio communications system having a hierarchical network architecture which contains

essentially the same combination of features as claim 1 in the form of device features.

Consequently, the subject matter of present claim 12 is likewise **not novel** (PCT Article 33(2)) and does **not involve an inventive step** (PCT Article 33(3)).

3. Moreover, the additional features of **dependent claims 2 to 11 and 13** in document D1 (for **claims 2, 3, 6 to 10** see page 11, lines 1 to 15; for **claims 4 and 5** see page 10, lines 6 to 11 and page 12, line 28, to page 13, line 2; for **claims 11 and 13**, see page 14, line 29, to page 15, line 8).

The **subject matter of dependent claims 2 to 11 and 13** is therefore **not novel** (PCT Article 33(2)).

Patent claims

1. Method for control of a transmission of data in a radio communication system with a hierarchical network architecture, in which
5 physical resources for a data transmission to user equipment (UE1, UE2, UE3) are administered by a device (NodeB 1, NodeB 2) of a lower hierarchy of the hierarchical network, characterized in that information (CLR) about the current load situation of the physical
10 resources is transmitted by a device (NodeB 1, NodeB 2) of the lower hierarchy to a device (CRNC) of the higher hierarchy of the hierarchical network architecture for controlling a load distribution.
2. Method according to Claim 1,
15 characterized in that, by means of the information (CLR) load states for an area of the radio communication system supplied by the device (NodeB 1, NodeB 2) of the lower hierarchy is transmitted.
3. Method according to Claim 2,
20 characterized in that Load values averaged over time for defined operating parameters and/or signaling types of the radio communication system for radio data connections between of a device (NodeB 1, NodeB 2) of the lowest hierarchy and user equipment (UE1, UE2, UE3) is transmitted
25 as information (CLR) about the load states.
4. Method according to one of the Claims 1 to 3, characterized in that, on the basis of cell load reporting (CLR) a check on an assignment of user equipment (UE1, UE2, UE3) to specific devices (NodeB 1,
30 NodeB 2) of the lowest hierarchy is made.

5. Method according to Claim 4,
characterized in that,
a cellular radio communication system is provided as the radio
communication system, and on the basis of the cell load reporting
5 (CLR), a check is made on a handover option for at least one user
equipment (UE2, UE3, UE3) from a first cell (A, B, C, D) of the
radio network to a second cell (A, B, C, D) of the radio
communication system.
6. Method according to one of the Claims 1 to 5,
10 characterized in that,
the cell load reporting (CLR) is transmitted depending on particular
time events.
7. Method according to Claim 6,
characterized in that,
15 the cell load reporting (CLR) is transmitted periodically.
8. Method according to one of the Claims 1 to 5,
characterized in that,
the cell load reporting (CLR) is transmitted depending on specific
operational events of the radio communication system.
- 20 9. Method according to Claim 8,
characterized in that,
the cell load reporting (CLR) is undertaken as a function of defined
load states for the area of the radio communication system served by
the device (NodeB 1, NodeB 2) of the lower hierarchy.
- 25 10. Method according to Claim 9,
characterized in that,
the cell load reporting (CLR) is undertaken as a function of defined
threshold values for the load states.
11. Method according to one of the Claims 1 to 10, characterized
30 in that
a transmission of data packets is controlled in a packet data
transmission system.

12. Radio communication system with a hierarchical network architecture with devices (CRNC, SRNC1, SRNC2) for control of a transmission of data, where the hierarchical network architecture features devices (NodeB 1, NodeB 2) of a lower hierarchy and at least one device (CRNC) of a higher hierarchy, characterized in that
- at least one device (NodeB 1, NodeB 2) of the lower hierarchy is embodied for transmission of information (CLR) about a current load situation of administered physical resources for a data transmission to user equipment (UE1, UE2, UE3) at a device (CRNC) of the higher hierarchy and the device (CRNC) of the higher hierarchy is embodied for control of a load distribution based on the information (CLR).
13. Radio communication system according to Claim 12, embodied as a packet data transmission system.